ACT/035/002

MAN RDD Daniels JWS

May 18, 1979 TRW Site Investigation For EPA
Phase I

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TRW

28 March 1979
4342.3.79-052

Dr. Robert Heaney
Environmental Manager
Kennecott Copper Corp.
Utah Copper Division
P. O. Box 11299
Salt Lake City, Utah 84147

Dear Dr. Heaney:

Per my recent telephone conversation with your office, I am sending you a package of material pertaining to the current TRW Phase I study for the Environmental Protection Agency Offices of Solid Waste (OSW) and Research and Development (IERL-Cincinnati). Four items are attached:

- Enclosure 1 - Background
- Enclosure 2 - Candidate mine and ore beneficiation operations
- Enclosure 3 - Site characterization data requirements
- Enclosure 4 - Applicability of RCRA Section 3007(a) to on-site visits

TRW will collect and compile data listed in Enclosure 3 for each candidate operation. Please complete and return this information to TRW prior to the site visit.

The tentative time interval selected for our visit to your mining and ore beneficiation operation is May 9-18, 1979. Exact details can be later confirmed by telephone.

To complete EPA requirements for mine characterization site visits, we are requesting permission to take photographs of solid waste and ore storage, disposal, and treatment areas. In the event of rain, the trip may be delayed until photographs can be taken.

Tentatively, the number of people we plan to bring on-site ranges from two to four. The team will consist of a maximum of two TRW representatives and two EPA project officers.

Mr. Ivor Pickering, Environmental Vice President for Kennecott Corp. in New York, has agreed to coordinate our visit to your site. However, if further information is needed, please feel free to contact either me or Rocco Orsini, the TRW Task Manager, at 213-535-0837.

Sincerely,

Bernard Jackson
Chemical Engineering Department
Building 01/2151

BJ/mt
Enclosures: 4

ENCLOSURE 1

TASK: Survey of Best Solid Waste Management Practices for Mining and Ore Beneficiation.

SPONSORS: EPA Office of Solid Waste (Washington, D.C.) and EPA Office of Research and Development (IERL-Cincinnati, Ohio).

TRW TASK MANAGER: Rocco A. Orsini (Telephone: 213-535-0837).

EPA TECHNICAL TASK MONITOR: Jack Hubbard (IERL-Cincinnati, Ohio).

PROJECT DURATION: February - December 1979.

Background

Sections 3004 and 4004 of the Resource Conservation and Recovery Act (RCRA) of 1976, P.L. 94-580, provide for the establishment of standards for hazardous and non-hazardous solid waste management practices. Hence, the U.S. Environmental Protection Agency (EPA) is sponsoring a two-phase effort to evaluate the adequacy of various solid waste management practices being used in the mining industry in order to promulgate guidelines under RCRA Section 1008 and regulations under RCRA Section 3004 for the treatment, storage, and disposal of mining wastes.

Phase I of this effort consists of a survey of typical and exemplary solid waste management practices currently in use by mining and ore beneficiation operators. Solid waste disposal practices from three areas of the mining industry are to be considered: (1) metallic ore mining (Cu, Fe, Pb, Mo, Zn, W, Au, and Ag) and beneficiation; (2) phosphate ore mining and beneficiation; and (3) uranium mining. Solid waste from these segments is to include waste rock from underground and surface mines, overburden, low grade ore, tailings (except from uranium production), sludges from processing and water treatment plants, and coarse reject from beneficiation. Sources of survey data will include published literature, interviews with industry representatives, reports and research of federal, state and local agencies and on-site observations from selected mining operations.

TRW has responsibility for performing Phase I and is currently collecting existing data for candidate mining and ore beneficiation operations.

Phase II of this effort, which will be funded under separate contract, will consist of a detailed evaluation of selected solid waste management practices and will include long-term, on-site sampling of solid and liquid streams relevant to the evaluation. Results of the preliminary evaluation conducted during Phase I will be used to select sites for study during the Phase II effort.

ENCLOSURE 2

LIST OF CANDIDATE MINE AND ORE BENEFICIATION OPERATIONS

EPA REGION	STATE	MINE	COMPANY	PRODUCT
III	Va.	Austinville and Ivanhoe	New Jersey Zinc	Lead, zinc
IV	Tenn.	Zinc Mine Works	U.S. Steel	Zinc
		Young (priority 2)	ASARCO	Zinc
		Columbia	Monsanto	Phosphate
	Fla.	Occidental Phosphate	Occidental Mining	Phosphate
		IMC Phosphate	IMC	Phosphate
		Brewster Phosphate	Brewster Mining Co.	Phosphate
		Agrico Phosphate	Agrico	Phosphate
	N.C.	Lee Creek	Texas-Gulf Inc.	Phosphate
V	Minn.	Butler Plant	Hanna Mining Co.	Taconite
		Hoyt Lakes	Erie Mining Co.	Taconite
	Wisc.	Eagle Pitcher	Eagle Pitcher Mining Co.	Lead, zinc
	Mich.	White Pine Copper	White Pine Copper Co.	Copper
VI	N.Mex.	Chino	Kennecott Copper Corp.	Copper
		Ambrosia Lake Sec #35	Kerr-McGee Nuc.	Uranium
		Churchrock #1	Kerr-McGee Corp.	Uranium
		Churchrock	United Nuclear	Uranium
		Jackpile Paquate	Anaconda	Uranium
		L-Bar Ranch	Sohio	Uranium
		San Mateo	Gulf	Uranium
VII	Mo.	Fletcher	St. Joseph Lead	Lead, zinc
		Buick	AMAX	Lead, zinc
VIII	Colo.	Black Cloud Mill	ASARCO	Lead, zinc
		Bulldog Mountain	Homestake Mining	Silver, lead
		Climax	AMAX	Molybdenum
		Henderson	AMAX	Molybdenum
		Schwarzwalder (priority 2)	Cotter	Uranium
	Mont.	Berkeley Pit	Anaconda	Copper
		Warm Springs	Cominco	Phosphate

ENCLOSURE 2 (Continued)

EPA REGION	STATE	MINE	COMPANY	PRODUCT
VIII (Cont'd)	S.Dak.	Homestake	Homestake Mining	Gold
*	Utah	Bingham	Kennecott Copper Corp.	Copper
		Dunn	Atlas Minerals	Uranium
		Rio-Algom	Rio Tinto Ltd.	Uranium
	Wyo.	Highland	EXXON	Uranium
		Bear Creek	Bear Creek Uranium Co.	Uranium
		Lucky McMine	Pathfinder Mining Co.	Uranium
		Pathfinder	Pathfinder Mining Co.	Uranium
IX	Nev.	(Unknown)(closed)	Kennecott Copper Corp.	Copper
		Yerington (closed perm.)	Anaconda	Copper
	Ariz.	San Manuel	Magma Copper	Copper
		Morenci	Phelps-Dodge	Copper
		Mission	ASARCO	Copper
		Pima (closed temp.)	Cypress Pima	Copper
		Sacaton	ASARCO	Copper
	Ca.	Bishop	Union Carbide	Tungsten
X	Ida.	Lucky Friday	Hecla Mining Co.	Lead,zinc,silve
		Delamar Silver	Earth Resources	Gold, silver
		South Maybe Canyon	Beaker Mining Corp.	Phosphate
		Wooley Valley	Stauffer Chemical Co.	Phosphate
		Henry	Monsanto	Phosphate
		Gay	J. R. Simplot	Phosphate
	Wash.	Midnight	Dawn Mining Co.	Uranium
		Sherwood	Western Nuclear	Uranium

ENCLOSURE 3

Site Characterization Data Requirements

Data and descriptive information required for candidate sites are listed below. These items will be addressed during the site visit.

- Layout of the mine and mill site(s).
- Process schematics.
- Ore processing rates.
- Estimated recoverable reserves and anticipated operating life of site.
- Characterization of solid waste streams:
  - source identification;
  - production rates;
  - physical characteristics;
  - chemical composition.
- Description of solid waste treatment methods utilized and material requirements for each method.
- Description of solid waste disposal methods currently in use as well as information relating to previously employed methods and reasons for process modification.
- Description of site characteristics relevant to selection of current solid waste treatment and disposal techniques (topography, hydrogeology, soil, climate, etc.).
- Analyses of groundwater and surface water.
- Site reclamation plans and associated costs.
- Solid waste treatment and disposal cost data.
- Description of steps being taken to control environmental problems such as fugitive dust, errosion, surface and groundwater pollution, etc.

ENCLOSURE 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

6 MAR 1979

OFFICE OF
GENERAL COUNSEL

MEMORANDUM

TO: Janet L. Auerbach
Program Manager
Special Wastes Branch (WH-564)

FROM: Dorothy A. Darrah DAD
Attorney
Water and Solid Waste Division (A-131)

THRU: James A. Rogers JAR
Associate General Counsel
Water and Solid Waste Division (A-131)

SUBJECT: Applicability of Section 3007(a) to Utility Waste and Mining Waste Disposal Site Testing Projects

BACKGROUND

EPA is initiating two one-year long disposal site testing projects for utility and mining waste. The purpose of the projects is to obtain sufficient data and information to promulgate regulations for the classification, storage, treatment and disposal of utility and mining wastes pursuant to Sections 3001 and 3004 of the Resource Conservation and Recovery Act of 1976 ("RCRA"). Agency experts believe that some of these wastes may be hazardous within the meaning of Section 1004(5) of RCRA. */

EPA is requesting the voluntary cooperation of the companies whose sites will be visited, but is concerned that some of the companies may not be willing to provide the access we need to conduct the studies. A number of the companies

*/ The information obtained during these studies also may be used to promulgate Section 1008 guidelines for the disposal of non-hazardous utility waste.

whose sites are scheduled to be inspected and tested by EPA have questioned whether EPA's access, inspection and sampling authority under Section 3007 of RCRA would permit the Agency to (1) inspect and sample waste (such as utility waste) which has not been classified as hazardous in proposed and/or final EPA Section 3001 regulations; (2) visually inspect waste (without taking samples) and (3) inspect and sample low grade ore, which the mining companies have indicated they may claim is not a waste, even though it may be stored in large piles for up to twenty years or more, i.e., until it is economically feasible to extract the ore.

Section 3007(a) of the Resource Conservation and Recovery Act of 1976 authorizes duly designated officers or employees of the Agency,

(1) to enter at reasonable times any establishment or other place maintained by any person where hazardous wastes are generated, stored, treated, disposed of, or transported from;

(2) to inspect and obtain samples from any person of any such wastes and samples of any containers or labeling for such wastes.

This authorization to enter, inspect and obtain samples may be invoked, according to Section 3007, "for the purposes of developing or assisting in the development of any regulation . . ."

QUESTION #1

You have asked whether the access entry provisions of Section 3007(a) apply where waste has not been classified as hazardous pursuant to Section 3001 of RCRA.

ANSWER #1

Yes. The access entry provisions of Section 3007(a) apply where waste has not yet been classified as hazardous pursuant to Section 3001. The access entry provisions of Section 3007(a) apply to any waste EPA reasonably believes might meet the statutory definition of a hazardous waste.

DISCUSSION

When Section 3007 authorizes duly designated officers and employees to enter any places where hazardous wastes are generated, stored, treated, disposed of, or transported from and "to inspect and obtain samples" of any such wastes, the hazardous wastes referred to are those which meet the definition of hazardous waste in Section 1004(5) of the Act. Any waste which is "classified" as hazardous pursuant to final Section 3001 regulations (i.e., is listed or meets one of the characteristics) would automatically meet the Section 1004(5) definition, but any waste that EPA reasonably believes

> because of its quantity, concentration, or physical, chemical, or infectious characteristics may -
>
> (A) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
>
> (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed,

is subject to the provisions of Section 3007(a) (emphasis added).

If Section 3007(a) applied only to wastes classified as hazardous pursuant to final Section 3001 regulations, the Agency obviously would not be able to use its Section 3007 authority to develop those regulations. */ Such a result

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*/ If one took the position that "hazardous wastes" in Section 3007 referred only to those wastes classified as hazardous pursuant to final Section 3001 regulations, EPA also would not have Section 3007 authority available to develop any other (e.g., Section 3002 or 3004) regulations until Section 3001 regulations were final. It does not appear that Congress could have intended such a result. Section 3007 states that its provisions may be used to assist in the development of any regulation and all of the Subtitle C regulations were to be promulgated by the Administrator within 18 months of enactment of RCRA.

is unreasonable because Section 3007 states that entry, inspection and sampling are available "for the purposes of developing or assisting in the development of any regulation" (emphasis added). The same reasoning also applies to any argument that Section 3007 may only be invoked for wastes which are listed or characterized under an existing Section 3001 proposal.

Section 3007 entry authority may be invoked whenever we reasonably believe that the waste in question might meet the statutory definition of a hazardous waste, whether or not such a waste has been formally classified as hazardous under Section 3001.

QUESTION #2

You have asked whether Section 3007 authority is available to enable EPA or the Office of Solid Waste to gain access to sites to perform a visual assessment (but no sampling or analysis) of the disposal operation to determine its representativeness and suitability for long-term testing.

ANSWER #2

Yes. Section 3007 authority is available to enable EPA to gain access to sites for the sole purpose of performing a visual assessment of the disposal operation to determine its representativeness and suitability for long term testing.

DISCUSSION

Section 3007 authorizes three activities: entry into places where hazardous wastes are generated, stored, treated, disposed of or transported from; inspection of any hazardous wastes; and obtaining samples of any hazardous wastes or any containers or labeling used for those wastes. There is no requirement that sampling take place each time an inspection is carried out. The Section clearly contemplates that inspections may occur during which no samples are obtained; Section 3007 states: "if the officer or employee obtains any samples . . . he shall . . ." (emphasis added).

QUESTION #3

You have asked whether Section 3007 authority to enter, inspect and obtain samples may be exercised by EPA when the Agency reasonably believes a material is a hazardous waste but the company which owns the material (in this case, low grade ore) asserts that it is a raw material rather than a waste.

ANSWER #3

Yes. Section 3007 authority is available for EPA to enter, inspect and obtain samples from any place where you reasonably believe hazardous wastes are generated, stored, treated, disposed of or transported from. Such authority may be invoked to define by regulation "discarded material" if you reasonably believe that the material, if a solid waste within the meaning of Section 1004(27), might meet the statutory definition of a hazardous waste.

DISCUSSION

Hazardous waste is a subset of solid waste; a material must be a solid waste in order to be a hazardous waste. In the case of low grade ore, the question is whether the material is a "discarded material" within the meaning of Section 1004(27) of RCRA. */ The mining companies may claim that such ore is not discarded, but is a raw material. Thus the issue becomes, what is a "discarded material"?

RCRA does not define "discarded material." EPA has defined it in proposed regulations to mean a material which "is not reused (that is, abandoned or committed to final disposition)." That definition, however, does not clarify whether low grade ore which has been extracted and left in piles on the ground for a period of years is a discarded material. The issue may become one of time; at what point

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*/ I assume that you believe that if this material is a solid waste within the meaning of Section 1004(27), it is a hazardous waste.

is the ore abandoned? The companies claim it never will be abandoned but EPA believes that it may already be abandoned. */

The Administrator has authority to prescribe "such regulations as are necessary to carry out his functions under the Act" (Section 2002(a)(1)) and thus has authority to define "other discarded material" (see Section 1004(27)) by regulation pursuant to both Section 2002 and 3001 authority. Assuming that EPA reasonably believes that low grade ore might be a hazardous waste (if it is a solid waste), you can invoke Section 3007 to study low grade ore in your mining waste study. You may do so to assist in the development of a regulation to define "other discarded material" and to assist in the development of such other Subtitle C regulations as you believe may be helped by the information you may obtain.

*/ It is not illogical to assert that a material is abandoned or committed to final disposition even though it may conceivably have some future use. For example, part of the rationale for keeping records (under 3004 requirements) of where hazardous wastes are disposed of in landfills is that we may want to recover and recycle them if a technology becomes available which would make such recovery and recycling economically feasible.